

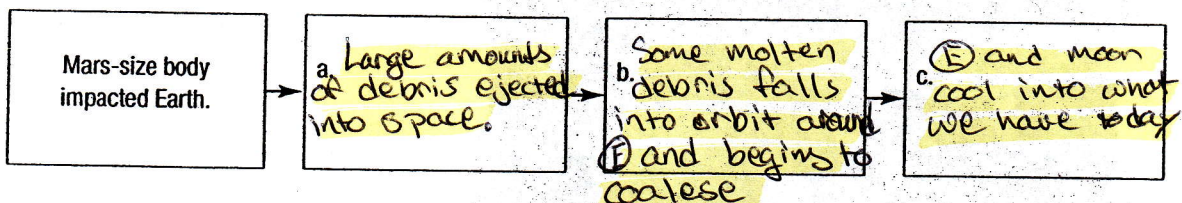
Chapter 22 Origin of Modern Astronomy

Section 22.3 Earth's Moon

This section describes the moon's structure, surface, and ideas about its origin.

Reading Strategy

As you read, complete the flowchart showing the stages leading to the formation of the moon. For more information on this Reading Strategy, see the Reading and Study Skills in the Skills and Reference Handbook at the end of your textbook.



1. The density of the moon is comparable to that of mantle rocks on Earth.

The Lunar Surface

Match each description with its moon feature.

- | Description | Moon Feature |
|--|--|
| <u>e</u> 2. densely pitted, light colored areas containing mountain ranges | <input checked="" type="checkbox"/> a. regolith |
| <u>b</u> 3. dark, relatively smooth areas made of ancient beds of basaltic lava | <input checked="" type="checkbox"/> b. maria |
| <u>d</u> 4. splash marks that radiate outwards for hundreds of kilometers | <input checked="" type="checkbox"/> c. craters |
| <u>f</u> 5. long channels similar to valleys or trenches | <input checked="" type="checkbox"/> d. rays |
| <u>a</u> 6. soil-like layer of igneous rock, glass beads, and fine lunar dust | <input checked="" type="checkbox"/> e. highlands |
| <u>c</u> 7. round depressions produced by the impact of rapidly moving debris or meteoroids | <input checked="" type="checkbox"/> f. rilles |

8. How did the maria on the moon's surface form? From large impacts that punctured through moon's crust allowing lava to bleed out.
9. Complete the table below.

Characteristic	Highlands	Maria
Color	<u>light</u>	dark
Surface texture	<u>rough</u>	<u>smooth</u>
Mountains present?	<u>yes</u>	<u>no</u>
Rilles present?	<u>no</u>	<u>yes</u>

← as viewed from a far.

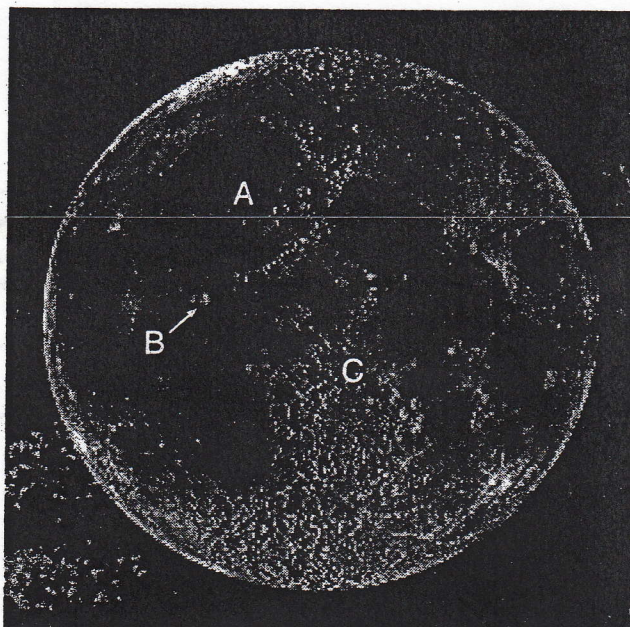
Chapter 22 Origin of Modern Astronomy

10. Select the appropriate letter in the figure that identifies each of the following moon features.

B crater

C highland

A mare



Lunar History

11. What is the most widely accepted theory of the moon's origin? Giant impact hypothesis - mars sized body collided w/ young Earth and the resulting molten debris fell into orbit, cooled, and became the moon.
12. The greater the density of craters on the moon, the older the surface must be.
13. List the three phases in which the moon evolved in order from oldest to youngest.
 - a. densely cratered highlands (4.5 billion years old)
 - b. Maria Basins (3.2-3.8 byo)
 - c. Ringed Craters
14. Is the following sentence true or false? Lava flows on the moon sometimes overlap highlands, showing that maria deposits are younger than highlands. True
15. Why have very old craters on the moon not been erased as similar craters on Earth have been? No erosional processes on the Moon due to a lack of atmosphere.